Journal of Pioneering Medical Sciences
Received: July 29, 2025 | Accepted: October 27, 2025 | Published: December 05, 2025
Volume 14, Issue 11, Pages 190-194

DOI https://doi.org/10.47310/jpms2025141127

Medical Students Perception of the Educational Environment at Dar Al Uloom University Using the Dundee Ready Educational Environment Measure [DREEM] Tool

Bushra Alshahrani[1*], Lama Almisfer[2], Reem Alradaddi[3], Raghad Alotaibi[4] and Zahra Alshehabeya[5], Nawra Almahroos[6], Hana Alharbi[7], Awdah Masoud Al-Hazimi[8] and Fahmida Khatoon[9]

[1-8]Medical Education Department, College of Medicine, Dar Al Uloom University, 5211, Saudi Arabia
[9]Biochemistry Department, College of Medicine, Saudi Arabia

Author Designation: [1-4,6,7]Student, [5,8]Professor, [9]Associate Professor

*Corresponding author: Bushra Alshahrani (e-mail: Bbuuss60@gmail.com).

©2025 the Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0

Abstract **Objectives:** To study the educational environment in the College of Medicine at Dar Al Uloom University and compare it to a previous study done in 2021. **Introduction:** Education is a lifelong journey influenced by various factors, with the Educational Environment [EE] being one of the most significant. This environment includes all elements that impact learning, academic performance and the overall quality of education. **Methods:** This observational, cross-sectional study was conducted using an online questionnaire hosted by Online Surveys. The Dundee Ready Educational Environment Measure [DREEM] questionnaire in both Arabic and English will be administered to 300 medical students at Dar Al Uloom University, including those in basic science and clinical years. The responses will be recorded in Microsoft Excel and analyzed using SPSS. **Results:** The total DREEM score was 110.12/200, which indicates a more positive than negative environment. However, it is lower when compared to previous study done in 2021 which had total DREEM score of [122.49/200]. The comparison reveals a notable negative shift in students' overall perception, though the 2025 score still places the environment in the generally "More positive than negative" range. This overall decline is primarily driven by substantial drops in two domains: Atmosphere and Teachers, with Social Life continuing to be the lowest-rated domain in both years. **Conclusion:** According to the DREEM score [110.12/200], DAU's educational environment is more positive than negative. Clinical years students and female had the lowest score. The areas of instruction: atmosphere and social support receiving the highest concerns. Efforts should be made to improve the quality of instruction, lessen stress and improve social inclusion and mentoring. Frequent evaluations of DREEM will aid in tracking advancement.

Key Words Educational Environment, DREEM Questionnaire, Medical Students' Perception, Learning Atmosphere, Teaching Quality, Medical Education Assessment

INTRODUCTION

Education is a lifelong journey influenced by various factors, with the Educational Environment [EE] being one of the most significant factor. This environment includes all elements that impact learning, academic performance and the overall quality of education. In medical education, where the stakes are high, the EE can be particularly competitive and stressful. Understanding and evaluating this environment is crucial for ensuring it supports students effectively.

METHOD

Study Design

This observational, cross-sectional study was conducted using an online questionnaire hosted by Online Surveys. Participants evaluated the educational program between July and September 2025. The DREEM questionnaire was electronically distributed to all students via WhatsApp.

RESULTS

The descriptive analysis was carried out in an attempt to determine how students saw the educational environment based on gender, academic year [basic or clinical] and GPA. Means of the five DREEM domains including Students Perception of Learning [SPL], Students Perception of Teachers [SPT], Students Academic Self-Perception [SASP], Students Perception of Atmosphere [SPA] and Students Social Self-Perception [SSSP] were calculated and analyzed. The findings give preliminary information on the relationships between the academic factors of students and differences in their perceptions about the educational environment.

Table 1: Mean [SD] DREEM Item Scores According to Domains

Domain	Statements	Mean [SD]
SPL	1-I am encouraged to participate in class	2.33 [1.095]
	7-The teaching is sufficiently concerned to develop my confidence	2.29 [1.273]
	13-The teaching encourages me to be an active learner	2.43 [1.14]
	16-The teaching is well-focused	2.09 [1.168]
	20-The teaching helps to develop my skills and competence	2.39 [1.159]
	22-I am clear about the learning objectives of the course	2.25 [1.296]
	24-The teaching is often stimulating	2.23 [1.208]
	25-The teaching time is put to good use	2.25 [1.149]
	38-The teaching is student-centered	2.32 [1.127]
	44-Long-term learning is emphasized over short-term learning	2.22 [0.996]
	47-The teaching is too teacher-centered	2.25 [1.08]
	48-The teaching over-emphasizes factual learning	2.52 [1.153]
SPT	2-The teachers are good at providing feedback to students	2.19 [1.21]
	6-The teachers have good communications skills with patients	2.43 [1.009]
	8-The teachers are knowledgeable	2.58 [1.161]
	9-The teachers give clear examples	2.44 [1.278]
	18-The teachers are well prepared for their classes	2.28 [1.25]
	29-The teachers provide constructive criticism here	2.04 [1.203]
	32-The teachers ridicule the students	1.61 [1.224]
	37-The teachers get angry in class	1.44 [1.106]
	39-The teachers are authoritarian	1.54 [1.095]
	40-The teachers are patient with patients	2.58 [0.871]
	50-The students irritate the teachers	1.33 [1.268]
SASP	5-I am able to memorize all I need	2.08 [1.083]
	10-Much of what I have to learn seems relevant to a career in medicine	3.01 [1.031]
	21-I feel I am being well prepared for my profession	2.2 [1.192]
	26-Last year's work has been a good preparation for this year's work	2.16 [1.17]
	27-My problem-solving skills are being well developed here	2 [1.23]
	31-I am confident about passing this year	2.91 [1.088]
	41-I have learned a lot about empathy in my profession	2.86 [1.047]
	45-Learning strategies which worked for me before continue to work for me	2.08 [1.059]
SPA	11-The atmosphere is relaxed during lectures	2.13 [1.265]
	12-I feel able to ask the questions I want	2.22 [1.195]
	17-I feel comfortable in class socially	2.35 [1.166]
	23-There are opportunities for me to develop interpersonal skills	2.28 [1.29]
	30-The atmosphere is relaxed during seminars/tutorials	2.23 [1.26]
	33-The enjoyment outweighs the stress of studying medicine	1.76 [1.253]
	34-The atmosphere motivates me as a learner	1.96 [1.182]
	35-I am able to concentrate well	2.25 [1.126]
	36-The atmosphere is relaxed during the ward teaching	2.2 [1.148]
	42-This school is well timetabled	1.73 [1.308]
	43-I find the experience disappointing	1.86 [1.152]
	49-Cheating is a problem in this school	1.58 [1.346]
SSSP	3-I have good friends in this school	3 [0.987]
	4-There is a good support system for students who get stressed	1.38 [1.202]
	14-I am too tired to enjoy this course	2.25 [1.203]
	15-I am rarely bored on this course	1.8 [1.018]
	19-My accommodation is pleasant	2.99 [0.94]
	28-My social life is good	2.66 [1.164]
	46-I seldom feel lonely	2.16 [1.295]

Table 2: Total Results of DREEM Domains [N = 79]

Domain	Number of Questions	Maximum DREEM Score	Mean
Domain 1: Learning	12	48	27.57
Domain 2: Teachers	11	44	22.46
Domain 3: Academics	8	32	19.3
Domain 4: Atmosphere	12	27	24.55
Domain 5: Social Life	7	28	16.24
Total DREEM Score	50	200	110.12

Descriptive statistics in Table 1 and 2 of the domains and DREEM's mean score of the students give valuable information about the perceptions of the students. In the case of the Perception of Learning [SPL] which contains 12 items, the mean score was 27.57 meaning a moderately positive perception although there exists some variation implying that there could be variation in individual experiences. Moreover, the mean of Perception of Teaching [SPT] which contains 11 items, was 22.46, which represents fair but weaker perception of the quality of teaching, with some

students reporting very low scores. Item numbers 32, 37, 39 and 50 received the lowest score. Score of these items is less than 2 and it indicates problem area. In the case of Academic Self-Perception [SASP], which contains 8 items, the mean was 19.30 which indicates that students are generally reasonably positive and confident about their academic capabilities although there is also evidence of some struggle with the lowest score being zero. The Perception of Atmosphere [SPA] which contains 12 items, gave mean of 24.55, indicating a more positive attitude perception with a significant variance. Item numbers 33, 34, 42, 43 and 49 received score less than 2 which indicates problem area as well. In the social domain, the mean score of the students on the Social Self-Perception [SSSP], which contains 7 items, was 16.24, which indicates not too bad participants' perceptions. Item numbers 4 and 15 received score less than 2 which indicates problem area. Lastly, the total DREEM Score was 110.12, indicating that it is more positive than a negative score based on the DREEM interpretation guidelines. This demonstrates that the general educational environment of the students is seen as somewhat satisfactory but not outstanding and some of its more specific aspects, especially quality of teaching and collage studying environment need to be improved.

Furthermore, the researcher tested the relationship between the perceptions of students regarding the learning environment in relation to gender and academic variables including year of study and GPA respectively. The analysis also reveals some commonalities and differences in perceptions, which provide information on how these variables define the general experience of education. The descriptive statistics in Table 3 indicated that the male DREEM Score was 116.7 which was higher than female score [106.73]. Consistently, there were a few differences between the genders on the domains. Male students were slightly higher in all DREEM dimensions [SPL, SPT, SASP, SPA and SSSP]. Such disparities imply that male students were more likely to have a positive perception of their learning environment. However, the means of both groups were in the same range, which indicates that the perceptions of both genders were very similar.

Similarly, Figure 1 presented the overall DREEM Scorse year-wise. That indicates a certain amount of variability among domains. Specifically, the mean of DREEM score was declining as students' academic level increased. DREEM score was 139 for the second-year and was 111 for both third-year and fourth-year students while reduced to 107 for the fifth-year students. Hence, the findings in Figure 1 presented declining trend with the second-year students scoring higher in all domains representing more positive perceptions in the learning, teaching, atmosphere, academics and social aspects. Conversely, students in their fifth year obtained lower scores especially on teaching and social, which implies that they may be exhausted, under greater academic strain or even discontented and accumulate stress in their older years.

Table 3: Descriptive Statistics of DREEM Domains by Gender

Domain	Male	Female
Domain 1: Learning	28.19	27.25
Domain 2: Teachers	23.33	22.02
Domain 3: Academics	20.41	18.73
Domain 4: Atmosphere	26.67	23.46
Domain 5: Social Life	18.11	15.27
Total DREEM Score	116.7	106.73

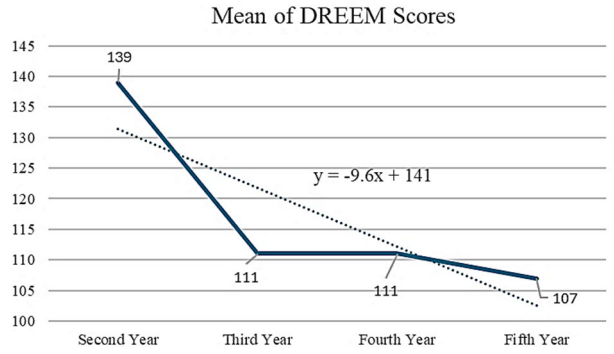

Figure 1: Mean Plot of Overall DREEM Scores across Academic Levels

From GPA analysis, the results of the descriptive achieved in the GPA categories represent different contrasts in the student views showed in Table 4. The scores for the 'Low GPA' group are notably different from the others, suggesting a possible difference in the scale or interpretation for this category. The Total DREEM Score shows a relatively consistent mean across the Moderate, Good and High GPA groups. The Good GPA group exhibiting the highest mean score [115.57] followed closely by the Moderate GPA group [114.07] and the High GPA group [108.05]. This suggests that students with Moderate and Good GPAs perceive the educational environment slightly more positively overall than those with High GPAs.

Independent-samples t-tests were applied to assess gender-based differences as presented in Table 5. In the case of SPL, there was no significant gender difference [$t = 0.448$, $p = 0.655$] thus, male and female students perceived learning inconsistently. Likewise, there was no significant difference in SPT [$t = 0.797$, $p = 0.428$] that indicates that the perceptions of teachers in both genders were similar. No significant difference was also observed in the SASP subscale between males and females [$t = 1.176$, $p = 0.243$]. In the case of SPA, the difference was not significant [$t = 1.691$, $p = 0.095$] although males scored slightly higher. There was however a notable difference in the case of SSSP [$t = 2.860$, $p = 0.005$] with male students indicating a higher score compared to the female students. This observation indicates that the differences in gender were only clear when it comes to perception of the social self-perception as male students reported more positive feelings than female students. In general, the majority of domains were not significantly different in terms of gender, meaning that the learning environment perceptions were not dramatically different in male and female students, with the exception of the social self-perception dimension.

Table 4: Descriptive Statistics of DREEM Domains by GPA Score Categories

Domain	Low GPA	Moderate GPA	Good GPA	High GPA
Domain 1: Learning	5	29.14	29.48	26.51
Domain 2: Teachers	1	22.79	24.61	21.68
Domain 3: Academics	4	20	20.22	18.93
Domain 4: Atmosphere	3	25.07	24.7	24.83
Domain 5: Social Life	3	17.07	16.57	16.1
Total DREEM Score	16	114.07	115.57	108.05

Table 5: Independent Samples t-Test for Gender Differences in DREEM Subscales

t-test for Equality of Means		
Domain	t-Value	Sig. [2-tailed P-Value]
SPL	0.448	0.655
SPT	0.797	0.428
SASP	1.176	0.243
SPA	1.691	0.095
SSSP	2.86	0.005

Table 6: Comparison [This Study and Previous Study] - Dar Al Uloom University

Domain	Previous Study [2]	This Study [2025]
Domain 1: Learning	29.36	27.57
Domain 2: Teachers	27	22.46
Domain 3: Academics	19.55	19.3
Domain 4: Atmosphere	29.61	24.55
Domain 5: Social Life	16.95	16.24
Total DREEM Score	122.49	110.12
Sample size	191	79

DISCUSSION

The primary goal of the current study is to assess the educational environment [EE] at Dar Al Uloom University's College of Medicine. The EE is one of the most important factors that affect education, which is a lifelong journey. Understanding and carefully evaluating the EE is essential in the demanding field of medical education to make sure that it supports students and gets them ready for their future careers. In order to modernize the necessary changes to the medical curriculum, this study aims to discuss the findings from our EE assessment and relate them to previous research. The total DREEM score was 110.12/200, falling between 101 and 150, indicating a greater proportion of positive perceptions than negative ones [1].

As shown in Table 6, the observed DREEM score [110.12/200] is lower when compared to previous study that was conducted by Altamimi *et al.* [2] [122.49/200] at Dar Al Uloom University, Riyadh, Saudi Arabia. The comparison reveals a notable negative shift in students' overall perception of the educational environment over the approximately four-year period, though the 2025 score still places the environment in the generally "More positive than negative" range. This overall decline is primarily driven by substantial drops in two specific domains: Atmosphere [5.06 points] and Teachers [4.54 points], indicating a less favorable view of the institutional environment and the faculty compared to the earlier study. In contrast, the students' perceptions of Academics [0.25-point drop] and Social Life [0.71-point drop] remained relatively stable. However, with Social Life continuing to be the lowest-rated domain in both years [16.95 and 16.24], highlighting a persistent area for improvement. Despite the overall decrease, Learning remains the highest-rated domain in the 2025 study [27.57], suggesting that students still hold a relatively positive view of the educational content and process, even as their perceptions of the university's atmosphere and faculty have diminished.

Likewise, these finding positions DAU comparably to several institutions in Saudi Arabia and internationally. The DAU score is very similar to the college of Medicine, Taibah University in Saudi Arabia [111.5/200] [3], the [112.3/200] for Imam Abdulrahman Bin Faisal University, Saudi Arabia [4], the [112/200] observed at a new medical school, Saudi Arabia [5] and the study by Faculty of Medicine, King Fahad Medical City [KFMC] [118/200] [6]. Furthermore, the DAU's mean score demonstrates a more robust student perception compared to environments categorized as having "Plenty of problems," such as the [96.57/200] reported about Jazan medical school of Saudi Arabia [7]. The score also exceeds those slightly above the "Plenty of problems" threshold, like [102/200] at the four undergraduate medical schools, Saudi Arabia [8] and [105/200] at a medical school, Saudi Arabia [9].

However, a comparison against global benchmarks reveals significant room for improvement, particularly regarding best-in-class educational models. The DAU score falls short of environments classified as "Excellent," exemplified by the high scores of [136.8/200] achieved by another study at King Saud University Medical College, Saudi Arabia on 2017 [10], the 139/200 from the UK [11] and the top benchmark of 143/200 at Australia [12]. The substantial difference between the DAU score and these high-performing institutions highlights a potential need to refine pedagogical approaches, student support systems and the overall social atmosphere.

On the other hand, this study DREEM score is comparable to other studies from India [107/200, 114/200] [13,14], Sri Lanka [108/200] [15] and Trinidad 109/200 [16]. In fact, lowest score [89/200] has been reported from Saudi Arabia at the College of Medicine at King Saud University in 2008 [17] followed by [97/200] reported by a study of the Canadian Memorial Chiropractic College [18]. However, many studies from various parts of the world have shown DREEM scores similar to those of the current study probably because of similar teaching methods [19].

CONCLUSIONS

The current study has explored the perceptions of medical students at DAU towards their learning environment in terms of DREEM framework and investigated the influence of academic factors in the development of these perceptions. The overall perception about educational environment [110.12/200] was more positive than negative and can be called healthy. The independent-samples t-test showed that there were no significant differences in the overall DREEM scores of the male and female students and they almost had the same perception. Meanwhile, the significant impact of

the academic level and the GPA allow concluding that students' perceptions are influenced by interpersonal and cultural determinants. These results have two implications. Firstly, medical schools need to maintain equitable learning environment of both genders but with particular emphasis on the improvement of social experiences of female students who might experience higher rates of difficulties in developing high-supporting peer relations. Secondly, the results support the necessity of student support systems, including mentorship programs, peer support groups and extracurricular activities, which would help to develop inclusive social participation independent of academic status.

REFERENCES

[1] McAleer, S. and S. Roff. "A Practical Guide to Using the Dundee Ready Education Environment Measure [DREEM]." *AMEE Medical Education Guide*, vol. 23, 2001, pp. 29-33.

[2] Altamimi, T. *et al.* "Medical Students' Perceptions of Their Educational Environment in an Integrated Curriculum in Saudi Arabia." *Journal of the Pakistan Medical Association*, vol. 71, no. 2B, 2021, pp. 672-676. https://doi.org/10.47391/JPMA.1354.

[3] Al-Kabbaa, A.F. *et al.* "Perception of the Learning Environment by Students in a New Medical School in Saudi Arabia: Areas of Concern." *Journal of Taibah University Medical Sciences*, vol. 7, 2012, pp. 69-75.

[4] Khan, S.Q. *et al.* "Medical Students' Perception of Their Educational Environment at Imam Abdulrahman Bin Faisal University, Kingdom of Saudi Arabia." *Journal of Family and Community Medicine*, vol. 26, 2019, pp. 45-50.

[5] Al-Mohaimeed, A. "Perceptions of the Educational Environment of a New Medical School, Saudi Arabia." *International Journal of Health Sciences*, vol. 7, 2013, pp. 150-159.

[6] Al Rukban, M.O. *et al.* "Learning Environment in Medical Schools Adopting Different Educational Strategies." *Educational Research Review*, vol. 5, 2010, pp. 126-129.

[7] Hasan, T. and P. Gupta. "Assessing the Learning Environment at Jazan Medical School of Saudi Arabia." *Medical Teacher*, vol. 35, 2013, pp. S90-S96.

[8] Audin, K. *et al.* "University Quality of Life and Learning (UNIQoLL): An Approach to Student Well-Being, Satisfaction and Institutional Change." *Journal of Further and Higher Education*, vol. 27, no. 4, 2003, pp. 365-382.

[9] Altemani, A.H. and T.H. Merghani. "The Quality of the Educational Environment in a Medical College in Saudi Arabia." *International Journal of Medical Education*, vol. 8, 2017, pp. 128-132.

[10] Soliman, M. *et al.* "Medical Students' Perception of the Learning Environment at King Saud University Medical College, Saudi Arabia, Using DREEM Inventory." *Advances in Medical Education and Practice*, vol. 8, 2017, pp. 221-227.

[11] Varma, R. *et al.* "Determining the Quality of Educational Climate Across Multiple Undergraduate Teaching Sites Using the DREEM Inventory." *BMC Medical Education*, vol. 5, 2005, p. 8.

[12] Denz-Penhey, H. and J.C. Murdoch. "A Comparison Between Findings from the DREEM Questionnaire and Those from Qualitative Interviews." *Medical Teacher*, vol. 31, 2009, pp. e449-e453.

[13] Mayya, S. and S. Roff. "Students' Perceptions of Educational Environment: A Comparison of Academic Achievers and Under-Achievers at Kasturba Medical College, India." *Education for Health*, vol. 17, 2004, pp. 280-291.

[14] Abraham, R. *et al.* "Students' Perceptions of Learning Environment in an Indian Medical School." *BMC Medical Education*, vol. 8, 2008, p. 20.

[15] Jiffry, M.T. *et al.* "Using the DREEM Questionnaire to Gather Baseline Information on an Evolving Medical School in Sri Lanka." *Medical Teacher*, vol. 27, no. 4, 2005, pp. 348-350.

[16] Bassaw, B. *et al.* "Students' Perspectives on the Educational Environment, Faculty of Medical Sciences, Trinidad." *Medical Teacher*, vol. 25, no. 5, 2003, pp. 522-526.

[17] Ayed, I.H. and S.A. Sheik. "Assessment of the Educational Environment at the College of Medicine of King Saud University, Riyadh." *Eastern Mediterranean Health Journal*, vol. 14, no. 4, 2008, pp. 953-959.

[18] Audin, K. *et al.* "University Quality of Life and Learning (UNIQoLL): An Approach to Student Well-Being, Satisfaction and Institutional Change." *Journal of Further and Higher Education*, vol. 27, no. 4, 2003, pp. 365-382.

[19] Zawawi, A.H. and M. Elzubeir. "Using DREEM to Compare Graduating Students' Perceptions of Learning Environments at Medical Schools Adopting Contrasting Educational Strategies." *Medical Teacher*, vol. 34, 2012, pp. S25-S31.